

**Lecture:** Wednesdays 10am – 12:50pm Franz 6461, 267-4589, [blaisdell@psych.ucla.edu](mailto:blaisdell@psych.ucla.edu)  
Course website: <http://pigeonrat.psych.ucla.edu/teaching.html>

**Office Hours:** Tuesdays 1:30-2:30 pm, Franz 8441A (or by appointment)

**Readings:** Each lecture topic has a required assignment (see below). Most of the readings come from the course textbook: Shettleworth, S. J. (1998). *Cognition, evolution, and behavior*. New York, NY: Oxford University Press. Additional readings will be available online by the Friday before the relevant lecture.

**Assessment:** There will be three means of assessment:

- a) Attendance and participation in discussion. (20%)
- b) A short essay (1000-2000 words) on the reading assignments for the current week due at the beginning of class. These essays will help guide class discussions. (40%)
- c) An in-class Final during finals week. (40%)

**Lecture topics and readings**

January 9: **Introduction**  
Shettleworth - Chapter 1

January 16: **Perception and Attention**  
Shettleworth – Chapter 2.

Cook R. G. (2001). Hierarchical stimulus processing in pigeons. In R. G. Cook (Ed.), *Avian visual cognition* [On-line]. Available: [www.pigeon.psy.tufts.edu/avc/cook/](http://www.pigeon.psy.tufts.edu/avc/cook/)

January 23: **Classes and Concepts**  
Shettleworth – Chapter 5.

Thompson, R. K. R., Oden, D. L., & Boyson, S. T. (1997). Language-naïve chimpanzees (*Pan troglodytes*) judge relations between relations in a conceptual matching-to-sample task. *Journal of Experimental Psychology: Animal Behavior Processes*, 23, 31-43.

January 30: **Working Memory**  
Shettleworth – Chapter 6.

Cook, R. G., Brown, M. F., & Riley, D. A. (1985). Flexible memory processing by rats: Use of prospective and retrospective information in the radial maze. *Journal of Experimental Psychology: Animal Behavior Processes*, 11, 453-469.

Wright, A. A., Santiago, H. C., Sands, S. F., Kendrick, D. F., & Cook, R. G. (1985). Memory processing of serial lists by pigeons, monkeys, and people. *Science*, 229, 287-289.

February 6: **Reference Memory**

Clayton, N. S., Griffiths, D. P., & Dickinson, A. (2000). Declarative and episodic-like memory in animals: Personal musings of a Scrub Jay. In C. Heyes and L. Huber (Eds.), *The evolution of cognition*. pp. 273-288. Cambridge, MA, MIT Press.

Inman, A., & Shettleworth, S. J. (1999). Detecting metamemory in nonverbal subjects: A test with pigeons. *Journal of Experimental Psychology: Animal Behavior Processes*, 25, 389-395.

February 13: **No Class**

February 20: **Space**  
Shettleworth – Chapter 7

Sawa, K., Leising, K., & Blaisdell, A. P. (2005). Sensory preconditioning in spatial learning using a touch screen task in pigeons. *Journal of Experimental Psychology: Animal Behavior Processes*, *31*, 368-375.

Wehner, R., Boyer, M., Loertscher, F., Sommer, S., & Menzi, U. (2006). Ant navigation: One-way routes rather than maps. *Current Biology*, *16*, 75-79.

Cheng, K. & Spetch, M. (2001). Landmark-based spatial memory in pigeons. In R. G. Cook (Ed.), *Avian visual cognition* [On-line]. Available: [www.pigeon.psy.tufts.edu/avc/cheng/](http://www.pigeon.psy.tufts.edu/avc/cheng/)].

February 27: **Time, Number, and Counting**  
Shettleworth – Chapter 8 (pp. 333 – 378)

Brannon, E. M., & Terrace, H. S. (2000). Representation of the numerosities 1-9 by rhesus macaques (*Macaca mulatta*). *Journal of Experimental Psychology: Animal Behavior Processes*, *26*, 31-49.

Savastano, H. I., & Miller, R. R. (1999). Time as content in Pavlovian conditioning. *Behavioural Processes*, *44*, 147-162.

March 5: **Imitation, Tool Use, and Causality**  
Shettleworth – Chapter 10

Leising, K. J., Wong, J., Stahlman, W. D., Waldmann, M. S., & Blaisdell, A. P. (in press). The special status of actions in causal reasoning in rats. *Journal of Experimental Psychology: General*.

Terkel, J. (1996). Cultural transmission of feeding behavior in the Black Rat (*Rattus rattus*). In C. M. Heyes and B. G. Galef (Eds.), *Social learning in animals: The roots of culture*, pp. 17-47, San Diego: Academic Press.

Zentall, T. & Akins, C. (2001). Imitation in animals: Evidence, function and mechanisms. In R. G. Cook (Ed.), *Avian visual cognition* [On-line]. Available: [www.pigeon.psy.tufts.edu/avc/zentall/](http://www.pigeon.psy.tufts.edu/avc/zentall/)

Franks, N. R., & Richardson, T. (2006). Teaching in tandem-running ants. *Nature*, *439*, 153.

March 12: **Imagery and Thought**

Brooks, R. A. (1991). Intelligence without representation. *Artificial Intelligence*, *47*, 139-159.

Dennett, D. C. (1995). Darwin's dangerous idea: Evolution and the meaning of life. Read Chapter 13, Part 1, The role of language in intelligence (pp. 370-383).

Hollard, V. D., & Delius, J. D. (1982). Rotational invariance in visual pattern recognition by pigeons and humans. *Science*, *218*, 804-806.

Neiwirth, J. J., & Rilling, M. E. (1987). A method for studying imagery in animals. *Journal of Experimental Psychology: Animal Behavior Processes*, *13*, 203-214.

March 19: **Final Exam (in class) Wednesday: 11:30am – 2:30pm.**